

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1. – 18. (Canceled)

19. (Currently amended) Knitted fabric wherein piezoresistive sensors for the monitoring of movement and breathing, electrodes for the monitoring of cardiac activity and breathing, and conductive connections for the transmission of signals are integrated,

wherein said knitted fabric is made of multiple layers where sensors, electrodes and connections are located,

wherein said piezoresistive sensors are realized by regions of fabric made of piezoresistive yarns,

wherein piezoresistive yarns are elastic yarns composed by synthetic fibers containing dispersed phases or shells of conductive materials,

wherein said piezoresistive sensors are made with an elastic fabric coated with carbon-loaded rubber or latex.

20. (Canceled)

21. (Currently amended) Knitted fabric according to claim-20 ~~19~~, wherein said piezoresistive sensors, said electrodes and said conductive connections are realized by using the so-called “intarsia” technique.

22. (Currently amended) Knitted fabric according to claim 19, wherein said electrodes and said conductive connections are realized by conductive yarns.

23. (Currently amended) Knitted fabric according to claim ~~22~~ 19, wherein said piezoresistive sensors, said electrodes and said conductive connections are made realized by using a tubular intarsia technique.

24. (Currently amended) Knitted fabric according to claim 19, wherein said electrodes are made of metal yarns twisted with standard yarns.

25. – 26. (Canceled)

27. (Currently amended) Knitted fabric according to claim 19, wherein said conductive connections are made of metal yarns twisted with standard yarns.

28. (Currently amended) Knitted fabric according to claim 19, wherein said knitted fabric is made using the double-bed jersey technique.

29. (Currently amended) Knitted fabric according to claim 19, wherein said knitted fabric is made of multiple layers in a way that electrodes are placed in contact with the skin of the user under examination while connections are insulated by a layer of fabric which separates them from the user's body.

30. – 31. (Canceled)

32. (Currently amended) Cut and sewn clothes and/or garments comprising a knitted Knitted fabric according to claim 19 wherein said knitted fabric is employed in cut and sewn clothes and garments.

33. (Currently amended) ~~Knitted fabric~~ Clothes and garments according to claim ~~31~~ 32, wherein the comprising sleeves ~~comprised~~ in said clothes and garments that have a shape that is cut from said fabric, rotated with respect to knitting direction so that course in said sleeves are parallel to arm length.

34. (Currently amended) A method for the detection of signals related to ECG, EOG, EMG, respiratory activity or respiratory frequency, said method ~~comprises~~ comprising:

placing a knitted fabric on a user, using a said knitted fabric wherein comprising:

piezoresistive sensors for the monitoring of movement and breathing,

wherein said piezoresistive sensors are realized by regions of fabric made of piezoresistive yarns,

wherein piezoresistive yarns are elastic yarns composed by synthetic fibers containing dispersed phases or shells of conductive material, and wherein said piezoresistive sensors are made with an elastic fabric coated with carbon-loaded rubber or latex;

electrodes for the monitoring of cardiac activity and breathing; and

conductive connections for the transmission of signals,

wherein said piezoresistive sensors, electrodes, and conductive connections are integrated in said knitted fabric, and

wherein said knitted fabric is made of multiple layers where said piezoresistive sensors, electrodes and conductive connections are located;

detecting signals relating to ECG, EOG, EMG, respiratory activity or respiratory frequency by said piezoresistive sensors and/or electrodes; and

transmitting the detected signals to an electronic device by said conductive connections.

35. (Currently amended) A method for the detection of signals related to movement activity, said method comprising:

placing a knitted fabric on a user, using a said knitted fabric wherein comprising:
piezoresistive sensors for the monitoring of movement and breathing,
wherein said piezoresistive sensors are realized by regions of fabric
made of piezoresistive yarns,
wherein piezoresistive yarns are elastic yarns composed by synthetic
fibers containing dispersed phases or shells of conductive material, and
wherein said piezoresistive sensors are made with an elastic fabric
coated with carbon-loaded rubber or latex;

electrodes for the monitoring of cardiac activity and breathing; and

conductive connections for the transmission of signals,

wherein said piezoresistive sensors, electrodes, and conductive connections
are integrated in said knitted fabric, and

wherein said knitted fabric is made of multiple layers where said
piezoresistive sensors, electrodes and conductive connections are located;

detecting signals relating to movement activity by said piezoresistive sensors and/or
electrodes; and

transmitting the detected signals to an electronic device by said conductive
connections.

36. (Currently amended) A method for the detection of signals related to respiratory activity
by impedance pneumography, said method comprising:

placing a knitted fabric on a user, using a said knitted fabric wherein comprising:

piezoresistive sensors for the monitoring of movement and breathing,
wherein said piezoresistive sensors are realized by regions of fabric
made of piezoresistive yarns,
wherein piezoresistive yarns are elastic yarns composed by synthetic
fibers containing dispersed phases or shells of conductive material, and
wherein said piezoresistive sensors are made with an elastic fabric
coated with carbon-loaded rubber or latex;

electrodes for the monitoring of cardiac activity and breathing, and

conductive connections for the transmission of signals,

wherein said piezoresistive sensors, electrodes, and conductive connections
are integrated in said knitted fabric, and

wherein said knitted fabric is made of multiple layers where piezoresistive
sensors, electrodes and conductive connections are located;

detecting signals related to respiratory activity by impedance pneumography by said
piezoresistive sensors and/or electrodes; and

transmitting the detected signals to an electronic device by said conductive
connections.

37. (Currently amended) Process for the production of a knitted fabric wherein
piezoresistive sensors for the monitoring of movement and breathing, electrodes for the

monitoring of cardiac activity and breathing, and conductive connections for the transmission of signals are integrated,

wherein said knitted fabric is made of multiple layers where piezoresistive sensors, electrodes and conductive connections are located,

wherein said piezoresistive sensors are realized by regions of fabric made of piezoresistive yarns,

wherein piezoresistive yarns are elastic yarns composed by synthetic fibers containing dispersed phases or shells of conductive material,

wherein said piezoresistive sensors are made with an elastic fabric coated with carbon-loaded rubber or latex, and

wherein said knitted fabric is made using the double-bed jersey technique.

38. (Currently amended) Process according to claim 37, wherein said electrodes and said conductive connections are made using the ~~so-called~~ "tubular intarsia technique".

39. (Currently amended) Process according to claim 38, wherein said knitted fabric is made with double bed weft knitting machines.

40. (New) Knitted fabric according to claim 23, wherein said electrodes and said conductive connections are made using said tubular intarsia technique combined with a Vanisè technique.

41. (New) Knitted fabric according to any one of the preceding claims, wherein said piezoresistive yarns are elastic yarns composed by electro-conductive fibers.

42. (New) Knitted fabric having a face side and a reverse side adapted to face the skin of a wearer, said fabric comprising:

sensors or electrodes adapted for the monitoring of movement, breathing, cardiac activity;

conductive connections being connected to the sensors adapted for the transmission of signals originating from said sensors;
ground yarn having electrically insulating properties; and
metal yarn having electrically conductive properties,
wherein the metal yarn is located on the reverse side of the fabric corresponding to the side in contact with the skin.

43. (New) Knitted fabric according to claim 42, wherein the ground yarn overlaps the metal yarn, whereby a layer of fabric can be obtained where each yarn is visible only on one of said sides and whereby the metal yarn is insulated from the body of the user, and
wherein the knitted fabric further comprises a ground-based layer insulating the metal layers from the exterior.